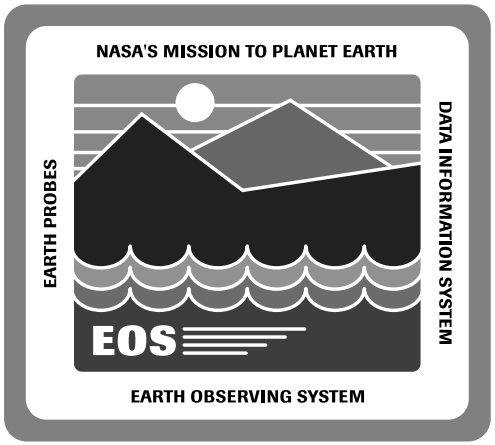
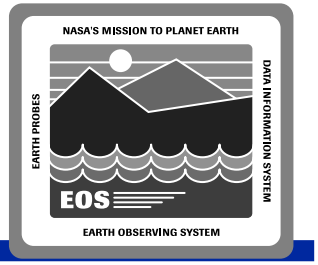


Communications

Naveen Hota

August 4, 1995

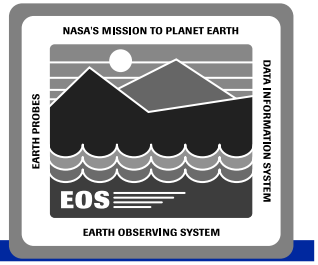
Directory / Naming Service



- **Provide Object Oriented APIs to application programmers to save and retrieve information into/from local (DCE CDS/GDS) namespaces that is visible across ECS**
- **APIs are a layer on top of the X/Open XDS/XOM standard interfaces**
  - **Functionally equivalent to X/Open's XFN Interface**
- **Simple and extendable schema (attribute value pairs with keys)**
- **Information kept in the namespaces may be protected by ACLs**
- **Local namespaces (DCE CDS/GDS) are connected via DNS**
- **Developed on top of Standard DCE**

- **ECS Context**
  - **Message Passing, User profiles**
  - **Multicasting Groups in Real Time Telemetry (RTT)**
  - **Simulated time for replay of RTT**

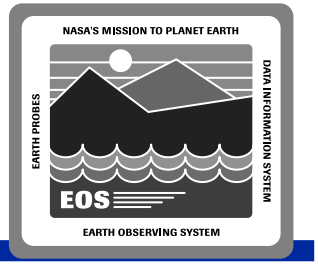
Security Service



- **Provide a layer on top of OODCE security services for application programmers to**
  - **Create and validate user / server identities**
  - **Check user privileges while servicing requests**
    - **Create, modify Access Control Lists**
    - **Allow M&O to modify permissions**
    - **Check user privileges**
  - **Prevent data in transit from modifications**
  - **Prevent data in transit from reading**
- **Simple to use Object Oriented APIs with <u>default behavior</u>**

- **ECS Context**
  - **Every Server application must use Security Service**

Asynchronous Message Passing



- **Provide Asynchronous communications**
- **Caller gets control back immediately (without waiting for the call to finish)**
- **Guaranteed delivery with Callbacks and priorities**
- **Multiple number of tries with intervals (application programmer specified)**
- **No modifications on the server side**
- **A layer on top of the DCE Threads providing Object Oriented APIs**
- **Programmer custamizable classes**

- **ECS Context**
  - **Real Time Telemetry**
  - **Subscriptions (Science Data Server, Planning)**
  - **Notifications (Network Node Manager)**